

ANNUAL REPORT
(Period of June 1, 2008 to June 30, 2009)

On Activities Associated With the
Carson River Watershed
REGIONAL FLOODPLAIN MANAGEMENT PLAN
FOR
DOUGLAS COUNTY, NEVADA
(Adopted August 7, 2008)

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REGIONAL FLOODPLAIN MANAGEMENT-in Support of a No Adverse Impact Approach

September 19, 2008 - 5 Counties join forces to reduce flood damage & protect floodplain lands.

- The Regional Floodplain Management Plan was adopted by five counties which include Douglas, Carson City, Lyon, and Churchill Counties in Nevada and Alpine County in California.
- Main goals of the plan are to help protect community members from flooding hazards, reduce flood-related costs, lower flood insurance rates, and to provide proactive strategies for floodplain management that can be applied regionally and locally.
- Responsible parties have been identified for implementation of the plan, and existing or potential funding sources have also been identified.

ACTIVITIES

1. **River Corridor/Floodplain Management Working Group** – The Carson River Coalition (CRC) is a bi-state multi-county stakeholder group. The river corridor/floodplain management working group is a sub-committee of the CRC with a focus on regional floodplain management issues. Douglas County participates with this working group. The meetings are open to the public and information about meetings is available at www.cwsd.org.

Meeting Dates during this reporting period include:
9-18-08, 10-28-08, 1-14-09, 2-9-09

2. **Regional Floodplain Management Plan**

- a. Formally adopted by Douglas County on 8-07-2008
- b. Prior to adoption several community workshops were held in Douglas County.
 - Community Workshop @ CVIC Hall - 4/09/08
 - Presentation to Douglas County Planning Commission - 5/8/08
 - Commission voted recommendation of plan adoption
 - Carson Valley Conservation District, Farm Bureau and Water Conveyance Committee Joint meeting – 4/1/08
 - Northern Nevada Development Authority – 3-26-08
 - Town of Gardnerville – 4/08

3. **Low-Level Flooding/Stormwater Management**

- a. **Stormwater Master Plan**. Douglas County began process of developing a stormwater master plan for Carson Valley that will investigate stormwater/flood control methods and payment schemes. Funding for plan development to be provided by Douglas County and the Carson Water Subconservancy District (CWSD).

- b. Carson Clear Water Revival (BMP) Program. This program began 1/09/09 as a pilot program in Carson City but will include workshops for Douglas County staff. The information developed through this program will be transferred to Douglas County and all the other counties in the watershed. In addition, if the program is successful in Carson City it will be expanded into all watershed counties. The focus of the program is on landowners and how to reduce impact from low level flooding on their properties.

4. Protect Floodplain Natural Functions and Values and Responsible Entities

- a. Adopt a Living River approach which will involve all entities.
- b. Floodplain & flood hazards should be considered with open space program objectives when selecting acquisition targets and establishing management strategies for open space - local governments, other entities.
 - o Douglas County has worked with stakeholders and landowners to secure over 13,500 acres in conservation easements and land acquisitions in Carson Valley.

5. Higher Regulatory Standards & Responsible Party

- a. Implement or enhance county ordinances that require 1:1 or greater mitigation ratio for floodplain storage volume. - local governments.
- b. Develop and conduct unsteady state modeling to identify storage requirements - Local & State governments, CWSD. Potential funding thru NDEP, CWSD and other local & state entities.
 - o CRC Floodplain Management/Flooding Technical Committee has been in discussion on which model to adopt. The committee discussed HEC-RAS being the model of choice. The committee also discussed having two models, one for the Carson River and one for the alluvial fan areas and tributaries.
 - o CWSD is establishing a fund for the Floodplain Management Program.
 - o NDEP has some funding that has been dedicated for the modeling effort to help protect floodplains from new pollution sources.
 - o FEMA has requested a list of projects from the CWSD for consideration of funding.
- c. Include the suggested ordinance language in county ordinances to provide watershed wide consistency. - Local governments.

6. Flood Data Information and Maintenance & Responsible Party

- a. Support FEMA'S Map Modernization Program & encourage FEMA to update FIRM'S with current and future conditions. - FEMA, CWSD and local governments.
 - o Douglas County is in the process of working with FEMA to correct inaccuracies in the updated FIRMs for the eastern alluvial fan area of Carson Valley to properly reflect current conditions.

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- b. CWSD continue to participate in FEMA'S Cooperating Technical Partner Program. - CWSD & FEMA
 - o Douglas County is a FEMA Cooperating Technical Partner
- c. Flood studies should be conducted for main channel and be used to update FEMA maps and fill data gaps. - CWSD & FEMA. Potential funding by Federal, state and local grant sources.
 - o Douglas County agreed with the committee that HEC-RAS modeling software will be used for identifying the missing gap in the floodplain between Carson City and Douglas County.
 - o Funding as secured from NDEP and CWSD to establish a blue ribbon committee of regional and local experts to investigate which model would be most appropriate
 - o CWSD has leverage money that can be used for flood studies.
 - o LiDAR data for Carson Valley collected in 2004 for river restoration projects is in the process of being validated for meeting FEMA requirements for floodplain mapping
- d. Flood maps and studies should be evaluated and updated depending upon changes in channel and floodplain conditions, watershed hydrology or any other significant changes. - CWSD & local governments. Potential funding by Federal, state and local grant sources.
 - o Douglas County is using the effective FIRM maps dated 1/20/2010 from FEMA to evaluate flood zones.
- e. Elevation Reference Marks (EFM) should be permanent monuments and updated on regular basis. -local governments
 - o Douglas County is in process of evaluating their network of EFMs.
- f. EFMs should be in same datum as base flood elevations on FIRMs or a datum that is readily convertible to FIRM datum. - local governments
 - o Counties agreed all new datum information shall be National Geodetic Survey (NGS) according to the North American Vertical Datum of 1988.
- g. A master list of EFMs should be developed, maintained and made available to interested parties. - local governments & CWSD
 - o Douglas County is in the process of establishing a list of EFMs.
- h. Photo-Monitoring program should be developed to document flooding and flood hazards in consistent matter. - CWSD, CRC and local governments

7. Floodplain and Flood Hazard Outreach and Education

Develop watershed wide outreach and education program about floodplain importance and flooding hazards. - CRC working group – Potential funding thru Federal, state and local grant sources.

- Douglas County helped to fund the printing of "The Carson River Watershed Map" to be distributed regionally.
- A brochure about the regional floodplain management plan, flooding hazards, and the importance of floodplain protection is in the process of being developed.
- Flooding/Floodplain protection display at Carson City and Minden libraries February 2009
- Local access television show “The Carson River Report” on regional plan and ways to protect floodplain
- Watershed website provides link to plan at www.cwsd.org
- Numerous articles about the plan, floodplain protection and flooding were included in the watershed newsletter that is distributed to over 600 individuals throughout the 5 county area.